



Laboratory Results

June 22, 2017

Danielle Gaito - Mail Code OEP06-4

Evan Lewis - Mail Code OEP06-1

US EPA New England R1

Project No: 17060015

Project: Merrymeeting River - Durham, NH

Analysis: Ortho Phosphate in Water as P

EPA Chemist: Inna Germansderfer

Date Samples Received by the Laboratory: 06/14/2017

Analytical Procedure:

All samples were received and logged in by the laboratory according to the USEPA New England Laboratory SOP for Sample Log-in.

Sample preparation and analysis was done following the EPA Region I SOP, EIASOP-INGTP11.

The SOP is based on the Lachat Method 10-115-01-1-B and EPA method 365.1 "Determination of Phosphorous by Semi-Automated Colorimetry", Revision 2.0, August 1993.

Samples were analyzed on a Lachat Automated Ion Analyzer.

Results relate only to the items tested or to the samples as received by the Laboratory. This analytical report shall not be reproduced except in full, without written approval of the laboratory.

Data were reviewed in accordance with the internal verification procedures described in the EPA New England Quality Manual for NERL.

If you have any questions please call me at 617-918-8340.

Sincerely,

17060015OPHOS

Qualifiers:

RL = Reporting limit

ND = Not Detected above Reporting limit

NA = Not Applicable due to high sample dilutions or sample interferences

NC = Not calculated since analyte concentration is ND.

J = Estimated value

J1 = Estimated value due to MS recovery outside acceptance criteria

J2 = Estimated value due to LFB result outside acceptance criteria

J3 = Estimated value due to RPD result outside acceptance criteria

J4 = Estimated value due to LCS result outside acceptance criteria

E = Estimated value exceeds the calibration range

L = Estimated value is below the calibration range

B = Analyte is associated with the lab blank or trip blank contamination. Values are qualified when the observed concentration of the contamination in the sample extract is less than 10 times the concentration in the blank.

R = No recovery was calculated since the analyte concentration is greater than four times the spike level.

P = The confirmation value exceeded 35% difference and is less than 100%. The lower value is reported.

C = The identification has been confirmed by GC/MS.

A = Suspected Aldol condensation product.

N = Tentatively identified compound.

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Page 3 of 6

Merrymeeting River - Durham, NH

Ortho Phosphate in Water as P

Matrix: Water

| Sample Number | Lab ID | Collected | Extracted | Analysis | Concentration ug/L | RL ug/L | Qualifier |
|---------------|---------|------------------|------------|------------------|-----------------------|------------|-----------|
| MM1 | AB67580 | 06/14/2017 10:20 | 06/15/2017 | 06/15/2017 11:58 | ND | 5 | |
| Comments: | | | | | | | |
| PM01 | AB67581 | 06/14/2017 10:30 | 06/15/2017 | 06/15/2017 12:00 | 14 | 5 | |
| Comments: | | | | | | | |
| PM02 | AB67582 | 06/14/2017 10:48 | 06/15/2017 | 06/15/2017 12:03 | 10 | 5 | |
| Comments: | | | | | | | |
| MM2 | AB67583 | 06/14/2017 11:00 | 06/15/2017 | 06/15/2017 12:04 | ND | 5 | |
| Comments: | | | | | | | |
| MM3 | AB67584 | 06/14/2017 11:15 | 06/15/2017 | 06/15/2017 12:09 | ND | 5 | |
| Comments: | | | | | | | |
| DUP01 | AB67585 | 06/14/2017 0:00 | 06/15/2017 | 06/15/2017 12:11 | ND | 5 | |
| Comments: | | | | | | | |
| Blank | | | 06/15/2017 | 06/15/2017 11:48 | ND | 5 | |
| Comments: | | | | | | | |

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Page 4 of 6

Merrymeeting River - Durham, NH

MATRIX SPIKE (MS) Results

| SAMPLE ID | PARAMETER | SPIKE ADDED ug/L | SAMPLE CONCENTRATION ug/L | MS CONCENTRATION ug/L | MS % REC | QC LIMITS (% REC) |
|-----------|-------------------------------|------------------------|---------------------------------|-----------------------------|----------------|-------------------------|
| AB67583 | Ortho Phosphate in Water as P | 97.8 | ND | 95.9 | 98.1 | 85 - 115 |

Comments:

MATRIX SPIKE DUPE (MSD) RESULTS

| SAMPLE ID | PARAMETER | MSD SPIKE ADDED | MSD CONCENTRATION ug/L | MSD % REC | RPD % | QC LIMITS RPD |
|-----------|-------------------------------|-----------------------|------------------------------|-----------------|----------|---------------------|
| AB67583 | Ortho Phosphate in Water as P | 97.8 | 94.6 | 96.7 | 1 | 20 |

Comments:

Laboratory Duplicate Results

| SAMPLE ID | PARAMETER | SAMPLE RESULT ug/L | SAMPLE DUP RESULT ug/L | PRECISION RPD % | QC LIMITS (%RPD) |
|-----------|-------------------------------|--------------------------|------------------------------|-----------------------|------------------------|
| AB67583 | Ortho Phosphate in Water as P | ND | ND | NC | 20 |

US ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND LABORATORY

Page 5 of 6

Merrymeeting River - Durham, NH

Laboratory Fortified Blank (LFB) Results

| PARAMETER | LFB AMOUNT SPIKED ug/L | LFB RESULT ug/L | LFB RECOVERY % | QC LIMITS % |
|-------------------------------|------------------------------|-----------------------|----------------------|-------------------|
| Ortho Phosphate in Water as P | 97.8 | 97.2 | 99.4 | 90 - 110 |

Samples in Batch: AB67580, AB67581, AB67582, AB67583, AB67584, AB67585

REGION 1

CHAIN OF CUSTODY RECORD

Page 6 of 6

| PROJ. NO. | | PROJECT NAME | | NO. OF CON- TAINERS | | | | | | | REMARKS | | |
|--|------|--------------------|-------|------------------------------|---|-------------|---|---|---|------------------------------|---|-------------|--------------------------|
| 17060015 | | Merryweather River | | | <div style="text-align: center;"> <i>TSS</i> <i>Orthophosphate</i> <i>Total Phosphorus</i> <i>NH3 as N</i> <i>Total Nitrogen</i> <i>NO2+NO3</i> </div> | | | | | | | | |
| SAMPLERS: (Signature) <i>[Signature]</i> | | | | | | | | | | | | | |
| STA. NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | | | | | | | | |
| MM1 | 6/14 | 1020 | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Pm01 | | 1030 | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Pm02 | | 1048 | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Mm2 | | 1100 | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| MM3 | | 1115 | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| DSP01 | | | | ✓ | | 2 | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | | | | 12 | | | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | Received by: (Signature) | | | Relinquished by: (Signature) | | Date / Time | Received by: (Signature) |
| <i>[Signature]</i> | | | | | | 6/14/13 | | | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | Received by: (Signature) | | | Relinquished by: (Signature) | | Date / Time | Received by: (Signature) |
| | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | Received for Laboratory by: (Signature) | | | Date / Time | Remarks | | |
| <i>[Signature]</i> | | | | | | | <i>[Signature]</i> | | | 6/14/13 13:00 | TN, TP, NO2+NO3 Preserved w/ H2SO4 pH < 2 | | |
| | | | | | | | | | | | ICE < 6°C | | |

17060015 TSD Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

17060015 TSD Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files
17060015 OPHOS
17060015 AMMO
17060015 TP
17060015 \$TNL

1- 19644